

AP Calculus  
Polynomial Inequalities

Name \_\_\_\_\_

Date \_\_\_\_\_

Solve.

1.  $5w(4w - 3) + 21 \geq 2w(10w + 1) - 13$

2.  $\frac{a + 2}{a - 3} < 0$

3.  $b^3 - 6b^2 \leq 0$

4.  $5a^3 + 10a^2 \geq 0$

5.  $3y^3 + 4y \geq 8y^2$

6.  $c^3 - 25c \geq 0$

7.  $(a + 3)(a - 4)(a + 1) > 0$

8.  $\frac{(b + 2)(b + 3)(b + 5)}{(b - 1)} \geq 0$

9.  $x - \frac{15}{x} > 2$

10.  $\frac{2}{k + 5} < \frac{1}{k - 3}$

11.  $\frac{a + 2}{a - 3} < 0$

12.  $2w^3 - w^2 \geq 0$

13.  $3(x - 2) - x(5 + x) \geq 5(3 + x)(1 - x)$

14.  $p^2 - 2 \geq 79$

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15.  $c^2 + 9 \leq 11$

16.  $3m^2 + 1 \leq 28$

17.  $5k^2 + 9 \geq 14$

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| <p>1.<br/>           Answer: <math>w \leq 2</math><br/>           CodePath: EAS.ALG.O.B.99</p> <p>2.<br/>           Answer: <math>-2 &lt; a &lt; 3</math><br/>           CodePath: EAS.TRI.D.H.229</p> <p>3.<br/>           Answer: <math>b \leq 6</math><br/>           CodePath: EAS.TRI.D.H.219</p> <p>4.<br/>           Answer: <math>a \geq -2</math><br/>           CodePath: EAS.TRI.D.H.218</p> <p>5.<br/>           Answer: <math>0 \leq x \leq \frac{2}{3}</math> or <math>x \geq 2</math><br/>           CodePath: EAS.TRI.D.H.214</p> <p>6.<br/>           Answer: <math>-5 \leq c \leq 0</math> or <math>c \geq 5</math><br/>           CodePath: EAS.TRI.D.H.207</p> <p>7.<br/>           Answer: <math>-3 &lt; a &lt; -1</math> or <math>a &gt; 4</math><br/>           CodePath: EAS.TRI.D.H.210</p> <p>8.<br/>           Answer: <math>b \leq -5</math> or <math>-3 \leq b \leq -2</math> or <math>b &gt; 1</math><br/>           CodePath: EAS.TRI.D.H.246</p> <p>9.<br/>           Answer: <math>-3 &lt; x &lt; 0</math> or <math>x &gt; 5</math><br/>           CodePath: EAS.TRI.D.H.244</p> <p>10.<br/>           Answer: <math>k &lt; -5</math> or <math>3 &lt; k &lt; 11</math><br/>           CodePath: EAS.TRI.D.H.240</p> <p>11.<br/>           Answer: <math>-2 &lt; a &lt; 3</math><br/>           CodePath: EAS.TRI.D.H.229</p> <p>12.<br/>           Answer: <math>w &gt; \frac{1}{2}</math><br/>           CodePath: EAS.TRI.D.H.220</p> <p>13.<br/>           Answer: <math>x \leq -\frac{7}{2}</math> or <math>x \geq \frac{3}{2}</math><br/>           CodePath: EAS.TRI.D.H.187</p> <p>14.<br/>           Answer: <math>p \leq -9</math> or <math>p \geq 9</math><br/>           CodePath: EAS.TRI.D.H.55</p> | <p>15.<br/>           Answer: <math>-\sqrt{2} \leq c \leq \sqrt{2}</math><br/>           CodePath: EAS.TRI.D.H.60</p> <p>16.<br/>           Answer: <math>-3 \leq m \leq 3</math><br/>           CodePath: EAS.TRI.D.H.62</p> <p>17.<br/>           Answer: <math>k \leq -1</math> or <math>k \geq 1</math><br/>           CodePath: EAS.TRI.D.H.66</p> |
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